Listing of Claims:

Claim 1 (Canceled).

2. (Currently Amended) The non-contact temperature measuring ~~apparatus~~ method according to claim ~~1~~ 5, wherein said coil and said thermosensitive element of the electronic circuit mounted on said each spherical semiconductor are disposed diametrically opposite to each other.

3. (Currently Amended) The non-contact temperature measuring ~~apparatus~~ method according to claim ~~1~~ 5, wherein the measurement object ~~is~~ comprises a semiconductor wafer, and wherein said thermosensitive element is embedded into a surface layer of the semiconductor wafer.

4. (Currently Amended) The non-contact temperature measuring ~~apparatus~~ method according to claim ~~1~~ 5, wherein said memory of said each spherical semiconductor ~~is~~ comprises a nonvolatile memory that retains the identification information even when the internal power is not present ~~disappears~~.

5. (Currently Amended) A non-contact temperature measuring method [[,]] for a non-contact temperature measuring apparatus,

wherein the non-contact temperature measuring apparatus comprises:

spherical semiconductors mounted to a measurement object, each spherical semiconductor including a surface which is integratedly formed with an electronic circuit, and a coil mounted thereon; and

a data collector, disposed out of contact with said spherical semiconductors, for supplying said spherical semiconductors with electric power required to operate each said electronic circuit and for collecting pieces of temperature information transmitted from said spherical semiconductors;

wherein said electronic circuit of each spherical semiconductor comprises: (i) a memory for storing identification information proper to the spherical semiconductor; (ii) a power source section for generating internal power, required to operate said electronic circuit, from electromagnetic energy received through said coil from outside the spherical semiconductor; (iii) a sensing circuit including a thermosensitive object; and (iv) a transmitter for transmitting, as the temperature information, an output of said sensing circuit through said coil when the identification information stored in said memory is specified by said data collector; and

wherein said data collector comprises (i) an energy source for generating the electromagnetic energy; (ii) a transmitter for transmitting identification information to specify an arbitrary one of said spherical semiconductors; and (iii) a receiver for detecting the temperature information transmitted from the specified spherical semiconductor;

said method comprising ~~the steps of~~:

(a) substantially uniformly distributing the spherical semiconductors ~~of the non-contact temperature measuring apparatus as set forth in any one of claims 1-4~~ on ~~a~~ the measurement object;

(b) simultaneously supplying the spherical semiconductors with electric power from the data collector ~~of said apparatus~~, so as to ~~thereby permit~~ power the spherical semiconductors to detect temperatures of different points on the measurement object;

(c) contactlessly collecting, by the data collector, pieces of temperature information indicative of the detected temperatures ~~and~~ which is transmitted from the spherical semiconductors; and

(d) determining, by the data collector, at least one of temperatures of the measurement object and ~~or~~ a temperature distribution throughout the measurement object based on the pieces of temperature information; ~~by the data collector~~

wherein the temperature information to be transmitted from each spherical semiconductor is corrected in accordance with temperature correction information determined for each spherical semiconductor.

6. (Currently Amended) The non-contact temperature measuring method according to claim 5, wherein ~~said step (a) includes disposing~~ the measurement object comprises a semiconductor wafer, one of the spherical semiconductors is provided at a center of a surface of ~~a~~ the semiconductor wafer, and ~~serving as the measurement object and disposing~~ remaining spherical semiconductors are distributed at equal angular intervals on a circumference of at least one imaginary circle centered at the center of the surface of the semiconductor wafer, and

~~said step (b) includes detecting~~ wherein surface temperatures ~~of~~ are detected at different points on the semiconductor wafer.

7. (Currently Amended) The non-contact temperature measuring method according to claim 5, ~~wherein said step (c) includes sequentially collecting~~ pieces of identification information which are respectively proper to the spherical semiconductors ~~, respectively, and each of which is~~ are

transmitted from a corresponding one of the spherical semiconductors together with the temperature information and sequentially collected by the data collector, and

~~said step (d) includes determining~~ wherein the temperature distribution throughout the measurement object is determined in accordance with the pieces of temperature information and the pieces of identification information.

8. (Currently Amended) The non-contact temperature measuring method according to claim 5, wherein ~~said step (c) includes correcting the temperature information to be transmitted from each spherical semiconductor in accordance with temperature correction information determined for each spherical semiconductor,~~ the temperature correction information ~~being~~ is determined ~~from the~~ based on an output of the sensing circuit of the spherical semiconductor ~~in a condition that~~ when the measurement object mounted with the spherical semiconductors is placed in a predetermined temperature ~~circumstance~~ environment.